MIRZOYAN, Eduard Nikolayevich; BORISENKO, Ye.Ya., prof., otv. red.; CHERKASOVA, V.I., red. izd-va; GUS'KOVA, O.M., tekhn. red.

[History of the study of the individual development of farm animals in Russia; middle of the 18th to the first third of the 20th century] Istoriia izucheniia individual'nogo razvitiia sel'skokhoziaistvennykh zhivotnykh v Rossii; seredina XVIII - pervaia tret' XX v. Moskva, Izd-vo Akad.nauk SSSR, 1961. 154 p. (MIRA 15:2)

(Stock and stockbreeding)

BORISENKO, Ye.Ya., doktor sel'skokhozyaystvennykh nauk, professor

Development of methods for the selection of farm animals on the farm of constitutional features. Izv. TSKHA no.3:57-66 '61. (MIRA 14:9)

(Stock and stockbreeding)

FLYAK, V., kand.selskokhoz.nauk; BORISENKO, Ye.Ya., doktor sel'skokhoz.nauk, prof., nauchnyy rukovoditel'

Role of the pigmentation of the wool cover in the protection of the organism against excessive ultraviolet radiation. Izv.TSKHA no.4:228-232 '62. (MIRA 15:12)

(Wool) (Ultraviolet rays—Physiological effect) (Pigments)

BORISENKO, Ye.Ya., doktor sel'skokhozyaystvennykh nauk, prof.

Ways for increasing the effectiveness of breeding work in animal husbandry. Izv. TSKHA no.5:135-147 '63. (MIRA 17:7)

BORISENKO, Ye.Ya., prof. doktor sel'skokhoz. nauk; BOROVOK, A.A., aspirant

Inheritance and ratio of butterfat and protein in cow milk. Izv. TSKHA no.4:153-166 '64. (MIRA 17:11)

1. Kafedra razvedeniya sel'skokhozyaystvennykh zhivotnykh Sel'skokhozyaystvennoy akademii imeni Timiryazeva.

BORISENKO, Ye.Ya., prof., doktor sel'skokhoz. nauk; YEVSTRATOVA, A.M.

Growth types of animals. Izv. TSKHA no.4:185-196 '65.
(MIRA 18:11)

1. Kafedra razvedeniya sel'skokhozyaystvennykh zhivotnykh Moskovskoy sel'skokhozyaystvennoy ordena Lenina akademii imeni Timiryazeva. Submitted February 10, 1965.

PHASE I BOOK EXPLOITATION SOV/5601

Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu

Stroitel'no-montazhnyye krany; spravochnoye posobiye (Construction Erection Cranes; a Manual) 2d ed. Moscow, Gosstroyizdat, 1960. 411 p. Errata slip inserted. 30,000 copies printed.

Scientific Ed.: S. P. Yepifanov, Candidate of Technical Sciences; Ed. of Publishing House: I. L. Kromoshch; Tech. Ed.: N. I. Rudakova.

PURPOSE: This manual is intended for technical personnel of design offices and building organizations concerned with the overall mechanization of construction erection operations.

COVERAGE: The manual contains a brief description of designs of cranes used in erection work and data on cranes, including purposes, specifications and functional diagrams, reference data

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on performance, composition of crews, required labor consumption, the cost of mounting and dismounting, and the arrangement of tracks. Also contained in the book are data on standard winches, anchors, and ropes, graphs on the cost of the crane operation per shift, basic considerations in the selection of cranes, and the methods for determining performance. The Foreword and Part I of the manual were written jointly by V. I. Polyakov, Candidate of Technical Sciences, and V. A. Solov'yev, Engineer. Parts II and III were written by Polyakov, Solov'yev, and A. N. Bogatov, Engineer. Ch. 4, Section 2, of Part I was written by S. P. Yepifanov, Candidate of Technical Sciences. Ch. I, Sections 1 and 3, and Ch. III of Part I and the tables of means of transportation and graphic data for Parts I and III (Chs. 2, 4, 6, and 7) were compiled by Solov'yev. Ch. I, Section 2, of Part I, the tables of the technical characteristics of cranes, the characteristic of tracks (together with Yu. A. Borisenko), and the graphic material for Parts II (entirely) and III (Chs. 1, 3, and 5) were compiled by Bogatov. The portion of Part I dealing with

tracks for tower cranes was written by Borisenko. Ch. 7 of Part III was written by Solov'yev; Ch. 8 of Part III, by Yepifanov, Solov'yev, Bogatov, and Polyakov. The cost of crane operation per shift was determined by Yepifanov, Solov'yev, and L. Ya. Grigor'yeva, Engineer, with the participation of Polyakov. M. Ye. Cherkasova, Engineer, Senior Technicians Z. A. Yagodkina, L. F. Sosedkina, and T. S. Devyatova, and Technician N. T. Trushakina selected the materials and plotted the diagrams. There are no references.

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MAKAROV, I.A. [Makarov, I.O.]; BORISENKO, Yu.A. [Borysenko, IU.A.]

New finds of volcanic ash in the Donets Basin. Geol. zhur. 23 no.4:51-61 '63 (MIRA 17:7)

1. Trest "Artemgeologiya", Artemovskaya kompleksnaya geologo-razvedochnaya partiya.

NOSOVITSKAYA, S.A. [Nosovyts'ka, S.A.]; BORZUNOV, Ye.Ye. [Borzunov, IE.IE.]; OGIYENKO, V.P. [Ohiienko, V.P.]; BORISENKO, Yu.B. [Borysenko, IU.B.]

Use of polyvinylpyrrolidone and polyvinyl alcohol as binding substances in the production of tablets. Farmatsev.zhur. 19 no.1:41-45 '64. (MIRA 18:5)

1. Khar'kovskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.

2249 Borisenko, Yu. Yu.

Razvedeniye Sel'skokhozya Ystvennykh Zhivotnykh. (Russko-Estonskiy Slovar')
Spets. Terminov. Tallin, Estgosizdat, 1954. 44s. 26sm. 200 EKZ. Bespl.-
(54-55049) 491.71-316.4 = 94.545 : 636+494.545-316.4 =
91.71 : 636+636 (038)

BORISENKOV, A. M.

Centralized freight transportation according to cards of estimated supply requests. Mashinostroitel' no.12:36 D '62. (MIRA 16:1)

(Bryansk—Machinery industry)

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S/230/62/000/012/001/001
E194/E135

AUTHORS: Borisenkov, I.A., Candidate of Technical Sciences, and Belyayev, L.N., Candidate of Technical Sciences

TITLE: Waterproofing of underground structures with synthetic materials

PERIODICAL: Transportnoye stroitel'stvo, no.12, 1962, 22-24

TEXT: Compositions recommended for waterproofing the inner surfaces of concrete linings of underground structures are given in the table below. The surface is first cleaned, the first coat is applied and the second and third coats are applied at two-day intervals. A silvery vitreous finish is produced. The following epoxide paints may also be used: first coat grade ЭП-55 (EP-55) diluted with equal parts of solvent Р-5 (R-5); second coat filler Э-4020 (E-4020) or Э-4021 (E-4021); and third coat enamel ЭП-56 (EP-56) diluted with thinners to suit spray gun. The hardener used is a 50% solution of hexamethylenediamine in ethanol. The filler is applied a day after the first coat, and two days later one or two coats of top coat are applied. If applied to the concrete on the side opposite the water pressure, these materials

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withstand a hydrostatic pressure of 5 - 6 atm, and if on the same side as the water pressure, 8 - 12 atm or more. The coatings are strong, but waterproofing breaks down if cracks of 0.4 mm appear in the concrete. If fibreglass cloth is applied, waterproofing is maintained until cracks of 1.5 - 4 mm appear in the concrete. The same fire and health safety precautions apply as with paints using volatile solvents. In view of the falling costs of epoxy resins the cost of waterproofing a square metre of concrete, including labour, materials and equipment costs, should not exceed 1 rouble 80 kopecks, which is much less than conventional methods. There are 1 figure and 1 table.

ZONTOV, Ye.; BORISENKOV, M.; NIKIFOROV, P.; SHUBIN, S.

For the further consolidation of collective farm finance.
Den. i kred. 18 no.11:52-60 N'60. (MIRA 13:11)

1. Upravlyayushchiy Permskoy kontoroy Gosbanka (for Borisenkov). 2. Predsedatel' kolkhoza "Pamyat' Il'icha" Sarayevskogo rayona Ryazanskoy oblasti (for Nikiforov). 3. Bukhgalter kolkhoza "Pamyat' Il'icha" Sarayevskogo rayona Ryazanskoy oblasti (for Shubin).
(Collective farms--Finance)

PHASE I BOOK EXPLOITATION SOV/5728

Borisenkov, Yevgeniy Panteleymonovich

Voprosy energetiki atmosfernykh protsessov (Problems in the Energetics of Atmospheric Processes) Leningrad, Gidrometeoizdat, 1960. 167 p. 3,000 copies printed.

Responsible Ed.: S. I. Titov; Ed.: T. V. Ushakova; Tech. Ed.: N. V. Volkov.

PURPOSE: This book is intended for synoptic meteorologists and aerologists.

COVERAGE: The book presents an exposition of the theory of atmospheric energetics and examines energetic processes in relation to general atmospheric circulation. The author investigates the mechanism of the conversion of solar energy into kinetic atmospheric energy, and discusses the physics of atmospheric processes which are integral to energetic transformations in the atmosphere. The results of original studies conducted by

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the author are cited, with emphasis on findings experimentally verified against synoptic aerological data. The author thanks Professor Kh. P. Pogosyan and Docents S. I. Titov and V. P. Gurov. There are 88 references: 29 Soviet, 55 English, and 4 German.

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BORISENKOV, S.

The struggle to carryout the party's decisions relative to agriculture. Prof.-tekh.obr. 13 no.5:8-10 My '56. (MLRA 9:8)

1. Nachal'nik Altayskogo krayevogo upravleniya trudovykh rezervov.
(Altai Territory--Farm mechanization--Study and teaching)

1. BORISENKOV, V.S.

2. USSR (600)

4. Filters and Filtration

7. Economizing on state property, Vin.SSSR 13 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

BORISENKOV, Ye. P.

"Application of S. I. Troitskiy's Theory to the Determination of Wind in the Upper Troposphere".
Meteorol. i Gidrologiya, No 1, pp 21-22, 1954.

Simplified method for determination of wind in the upper layers of the troposphere is proposed on the basis of the employment of AT_{500} maps. Fundamental is the position held by Troitskiy concerning the variation of wind with altitude in dependence upon the disposition of the baric and thermal gradients. The task thus reduces to the determination of the thermal wind in the layer from level 600 millibars to the level at which one desires to determine the wind. Computation of the thermal wind in the layer between the surface 500 millibars and the tropopause is carried out under the assumption of the polytropicity of the atmosphere; the vertical temperature gradient is considered here constnat. It the tropopause lies below this isobaric surface for which the wind is calculated the condition for polytropicity of the atmosphere is violated. In this case the thermal wind is determined only up to the height of the tropopause; isothermy is assumed above this and it is considered that the wind does not vary with altitude. A formula for the determination of the altitude of the tropopause is proposed. (RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956

BORISENKOV, Ye.P.

Energy transformation in the atmosphere in connection with cyclogenetic processes. Probl. Arkt. no.2:107-120 '57.
(MIRA 11:12)

(Cyclones)

AUTHOR: Borisenkov, Ye. P. SOV/ 50-58-6-1/24

TITLE: On the Horizontal Velocity Divergence in the Atmosphere (O gorizontal'noy divergentsii skorosti v atmosfere)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 3-7 (USSR)

ABSTRACT: The first use of the equations of hydro- and thermodynamics for determining local pressure changes is connected with using the tendency equation. After detailed discussions and considerations the author finds that an error in the determination of the direction of the wind of more than 2 - 3° leads to an error in the determination of the directional divergence of 100 and more per cents. The existing accuracy of the determination of wind with respect to the direction amounts to 6 - 10°, with respect to the velocity to 10 - 20% (Ref 4). With such an accuracy of measurement the error in the determination of the divergence of direction will amount to 100 - 200% and sometimes even to more. The error in the determination of the divergence of the velocity modulus may reach 10 - 20% and even 50 - 100%. This is explained by an example. For the above mentioned reasons especially the role played by

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the divergent term of the mentioned equations (2) and (3) is overestimated, and it becomes practically impossible to use the equation of tendency. There are 1 figure, 1 table, and 6 references, 4 of which are Soviet.

1. Meteorology--USSR 2. Atmosphere--Pressure 3. Atmosphere --Motion 4. Mathematics--Applications

BORISENKOV, Yevgeniy Panteleymonovich; TITOV, S.I., dotsent, otv.red.; USHAKOVA, T.V., red.; VOLKOV, N.V., tekhn.red.

[Energetics of atmospheric processes] Voprosy energetiki atmosfernykh protsessov. Leningrad, Gidrometeor.izd-vo, 1960. 167 p. (MIRA 14:1)

(Atmosphere) (Force and energy)

BORISENKOV, Ye.P.

Some results obtained in testing the analytico-graphical method of pressure field forecasting. Trudy TSIP no.106:88-101 '60.
(MIRA 13:12)

(Atmospheric pressure)

S/169/62/000/007/115/149
D228/D307

AUTHOR: Borisenkov, Ye. P.

TITLE: Trial use of empirical functions of influence for forecasting from 1-2 to 3-5 days in advance the pressure near the ground

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 50, abstract 7B264 (Tr. Arkt. i antarkt. n.-i. in-ta, 240, 1961, 33-48)

TEXT: The author gives the results of using empirical functions of influence to forecast the near-ground baric field for a period from 1-2 to 3-5 days by a method involving linear and nonlinear operators. The equation

$$\frac{\partial p_o}{\partial t} = - u \frac{\partial p_o}{\partial x} - v \frac{\partial p}{\partial y} - p_o \left(\frac{\overline{\partial u}}{\partial x} + \frac{\overline{\partial v}}{\partial y} \right)$$

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Trial use of ...

was used as a physical model for constructing the statistical scheme of forecasting the pressure for 1 - 2 days. This was obtained from the integrated equation of tendency after the mean wind velocity components had been taken out from under the integrals. Then, using the geostrophic correlation and replacing the derivatives by the final differences, the author derives the plural regression equation:

$$\Delta p_o = A_1 H_1 p_3 + A_2 H_1 p_4 + A_3 H_2 p_3 + A_4 H_2 p_4 + A_5 H_3 p_1 + A_6 H_3 p_2 +$$

$$+ A_7 H_4 p_1 + A_8 H_4 p_2$$

In addition to this, the influence of the pressure change in the surrounding space in the presence of a definite type of circulation (Vangengeym's typification being employed) is taken into account. Calculations were made for Leningrad at the time of a westerly type of circulation in the warm season. The functions of in-

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Trial use of ...

fluence were computed from data for a three-year period (1953-1955). The mean absolute actual variability of the pressure, the mean absolute error of forecasting, the ratio of the mean error to the mean absolute variability, the guaranty of forecasting in the case of an error of 5 mb, and the guranty of forecasting the sign of the pressure change were taken for the appraisal. The estimation was made from 40 processed and 30 independent cases. The results indicate the stability of the empirical functions of influence; the forecasting errors, however, appear to be large. The author points out that allowing for nonlinear operators does not improve the quality of forecasts in comparison with using linear operators. Then the author examines the results of forecasts for 3-5 days throughout the hemisphere. In order to decrease the order of the system of equations when solving the forecasting problem throughout the hemisphere, the author suggests that areas, having a decisive influence on the nature of atmospheric processes, should be distinguished; in other words that the number of points for taking down data should be decreased, and that the precision should be increased at the expense of a stricter physical scheme. In this

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Trial use of ....

context 25 points were chosen, and their empirical functions of influence were calculated for the warm season from the scheme:

$$\Delta p = \Sigma A_i \Psi_i + A_{26} \sum_{i=1}^{\infty} (\bar{T}_j - \bar{T} \text{ pole})$$

$$\Psi_i = p_i + \frac{1}{4} \sum_{k=1}^{4} p_k - 2000$$

where T is the relative geopotential 0T-500/1000. It was established that symmetry is absent in the distribution of the weight factors. The points, whose weight decisively influences the pressure change at all the points chosen, are practically the same. The functions of influence for the same point at the time of various forms of

circulation are distributed differently. Examples of calculations are given together with the geographic distribution of the correlation factor. The field's configuration can be forecast well. The errors are analyzed. The author considers the question of allowing for the previous history of a process in the forecast by means of empirical functions, proceeding from the assumption that the amount of the atmosphere's mass above the hemisphere does not change but is only redistributed. It is proposed that this method should be tested. [Abstracter's note: Complete translation.]

BORISENKOV, Ye.P.; YURGENSON, A.P., red.; OKSENOVA, Ye.I., red.; STUL'CHIKOVA, N.P., tekhn.red.

[Physicostatistical methods for analyzing and precalculating meteorological fields] Fiziko-statisticheskie metody analiza i predvychisleniia meteorologicheskikh polei. Leningrad, Izd-vo "Morskoi transport," 1963. 243 p. (Leningrad. Arkticheskii nauchno-issledovatel'skii institut. Trudy, vol.263). (MIRA 17:4)

ACCESSION NR: AR4020752 S/0169/64/000/001/B053/B053

SOURCE: RZh. Geofizika, Abs. 1B303

AUTHOR: Borisenkov, Ye. P.

TITLE: Seasonal energy transformations in the atmosphere of the northern and southern hemisphere

CITED SOURCE: Tr. Arkt. i Antarkt. n.-i. in-ta, v. 253, 1963, 109-121

TOPIC TAGS: Seasonal atmospheric energy transformation, atmospheric potential energy, atmospheric kinetic energy, atmospheric labile energy, atmospheric internal energy, seasonal atmospheric energy balance

TRANSLATION: A combined evaluation of the energy balance of the atmosphere of the northern and southern hemisphere and an investigation into the seasonal characteristics of energy transformation in the atmosphere were made by studying the kinetic, potential, and internal energy. The kinetic energy was calculated from average monthly lines of equal speed for July and January, 1958, according to the formula

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ACCESSION NR: AR4020752

$$K=\frac{1}{2g}\int_0^{P_0} c^2 dP,$$

where g is the acceleration due to gravity, c is the wind force modulus, and P is the pressure. The numerical value of this integral was determined at 324 points for each hemisphere. The potential energy Π was determined from the formula

$$\Pi=a\int_{100}^{P_0} z dP + a\cdot 100\left(z_{100}+\frac{RT_{100}}{g}\right),$$

where T_{100} and z_{100} are the temperature and height of the surface at 100 mb, R is the gas constant, and a is the conversion factor. The internal energy was calculated from the formula I=2.44 Π, and the labile energy, from the formula L=3.44 Π. Analysis of the kinetic energy distribution in the northern hemisphere showed the existence of a band of high K values at 30° N. Lat. in winter and at 40-50° N. Lat. in summer. Calculation of the total kinetic energy content in the northern hemisphere gave the following values: in winter, 405.63 x 10^{25} erg; in summer, 191.49 x 10^{25} erg. The principal

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ACCESSION NR: AR4020752

maximum of change in kinetic energy from winter to summer is located between 20 and 40° N. Lat. It is characteristic that the maximum variations of potential (internal) energy are observed in the same zones as the maximum variation of kinetic energy. Analysis of labile energy distribution revealed its general tendency to decrease from summer to winter at high latitudes, the value in the equatorial region being unchanged. In conclusion, it is suggested that the potential and kinetic energy may balance each other in the two hemispheres. From the energy balance level for the closed system it follows that the variation of K from one season to the next is related to the influxes of heat, and hence, to the characteristics of the underlying surface. V. Monakhov

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L 8722-65 EWT(d)/EWT(1)/EEC(k)-2/FCC/EED-2/EWP(1) Pm-4/Po-4/Pq-4/Pg-4/Pk-4
IJP(c)/ESD(dp)/ASD(a)-5/AFETR BB/GG/GW
ACCESSION NR: AT4046485 S/3116/63/253/000/0122/0131

B

AUTHOR: Borisenkov, Ye. P., Poly*salova, N. F.

TITLE: Automatic input of meteorological data from communication lines into an electronic digital computer and their analysis

SOURCE: Leningrad, Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Trudy*, v. 253, 1963. Sbornik statey, posvyashchenny*y pamyati V. V. Frolova; voprosy* gidrometeorologii polyarny*kh oblastey (Collection of articles in memory of V. V. Frolov; problems in the hydrometeorology of the polar regions), 122-131

TOPIC TAGS: meteorology, electronic computer, meteorological telegram, meteorological code aerology, weather forecasting

ABSTRACT: The purpose of this article is to discuss some of the results of work on the computer analysis of aerological data; as well as certain problems of an organizational character which involve primarily the coding of data and the means by which they are transmitted. Much of this report deals with the decoding of the aerological summaries and machine checking of errors. The computer was a "Ural-2" with additional attachments making it possible to introduce data at the rate of 400 digits/second directly from a paper

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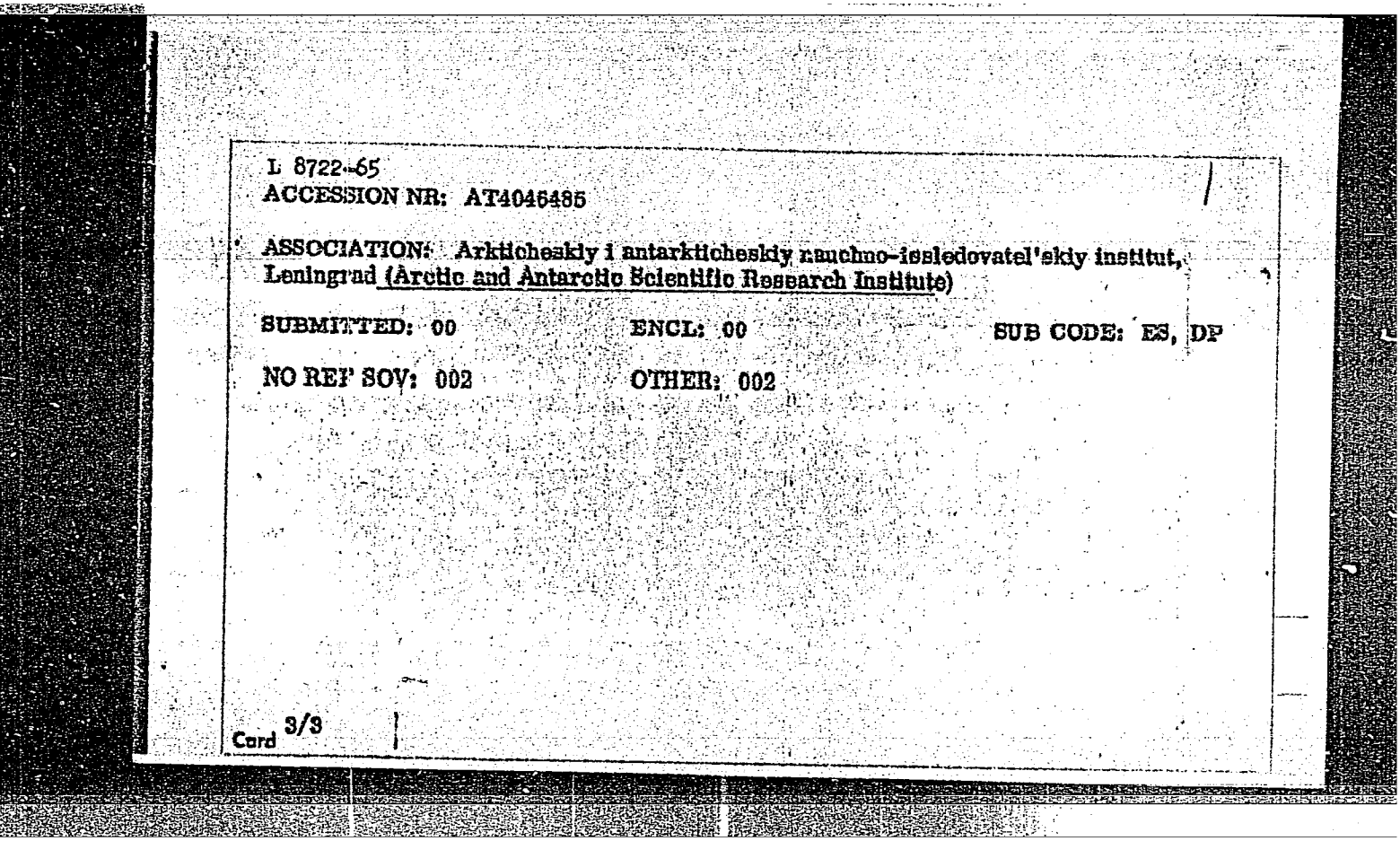
telegraph tape into the computer without repunching. The full processing method is described and an example of a decoded telegram is illustrated. The computer program used is also shown. Processing of 130 telegrams requires about 20 minutes of machine time. All aerological reports for a hemisphere can therefore be handled by the "Ural-2" in 1 hour. After the telegrams are decoded the next step is an objective analysis of the isohypse fields with a feedout of the analytical results. This involves the printing out of the results at the grid intersections of a regular grid in the form of dotted isolines (however, this printout stage of the work is not further discussed). The requirements imposed on the system of coding and transmission of meteorological data are discussed in detail, along with shortcomings and problems. It is noted that certain countries, notably the United States, have not adopted the standard system of units of measurement, which causes serious inconvenience in decoding data and requires extra machine time. Creation of a uniform international code is a first-priority problem. Another serious difficulty is that the random errors of measurement of geopotential heights presently exceed appreciably the errors in methods of objective analysis. This problem must be solved to ensure the success of numerical weather forecasting. Orig. art. has: 1 formula, 1 figure and 1 table.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206320013-4"



L 8722-65
ACCESSION NR: AT4046485

ASSOCIATION: Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut, Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, DP

NO REF SOV: 002 OTHER: 002

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L 10689-65 EWT(1)/FCC ASD(a)-5/ESD(dp)/AFETR GW

ACCESSION NR: AT4046486 S/3116/63/253/000/0132/0137

AUTHOR: Borisenkov, Ye. P.; Tarasov, B. V.

TITLE: Automatic plotting of pressure pattern charts by a letter and digit plotter

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Trudy*, v. 253, 1963. Sbornik statey, posvyashchenny*y pamyati V. V. Frolova; voprosy* gidrometeorologii polyarny*kh oblastey (Collection of articles in memory of V. V. Frolov; problems in the hydrometeorology of the polar regions), 132-137

TOPIC TAGS: meteorology, atmospheric pressure pattern chart, meteorological data plotter, electronic computer

ABSTRACT: The authors review the various means by which meteorological charts are plotted automatically, with emphasis on the methods used in the United States and Sweden. Certain shortcomings or limitations of these methods are noted. During the past two years, the authors and their colleagues have been attempting to automate the process of collection and analysis of data using a "Ural-2" electronic computer. This article does not discuss the methods used there for objective analysis; only the automatic plotting of pressure pattern charts by a letter and digit plotter are described. As a result of objective analysis or

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ACCESSION NR: AT4046486

numerical forecasting, the values of a meteorological element are available for the intersections of a regular square grid system. These values are fed to the memory units of an electronic computer. The grid used measures 20 x 20 grid squares, with 2.4 cm between points; the real distance between the points is 240 km. The program for obtaining the isolines and selection by the plotter is rather simple and involves only 200 commands. The printing of 12 charts, involving the input of the program and numerical data and its conversion into a binary code, requires about 20 minutes. Assuming that the necessary data are already stored in the memory units of the electronic computer, the plotting of 1 chart requires about 1 minute. The maximum possible width of a chart is 50 cm, but it can have any length; width can be extended by gluing chart sheets together. The results described are the first Soviet attempt at automatic plotting of weather charts. Figures 1 and 2 of the Enclosure illustrate the process. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut, Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00 ENCL: 04 SUB CODE: ES

NO REF SOV: 001 OTHER: 009

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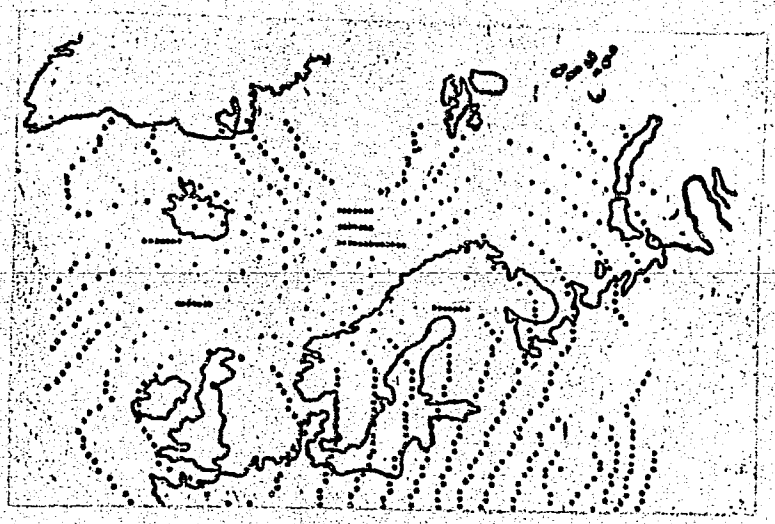
ACCESSION NR: AT4046486

Fig. 1.

ENCLOSURE: 01



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ACCESSION NR: AT4046486

ENCLOSURE: 02

Continuation of Fig. 1.

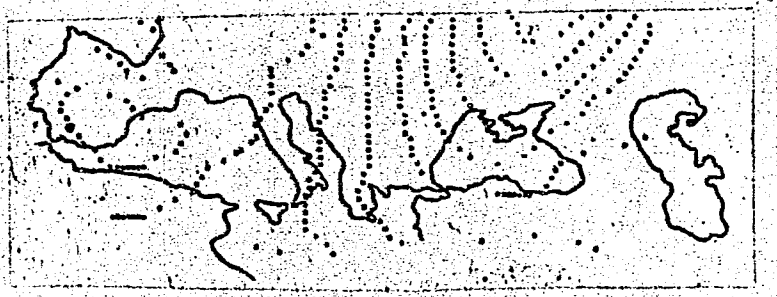

Fig. 1. Absolute pressure pattern chart of the 700-mb surface for 0600 hours on 7 September 1953, plotted by computer.

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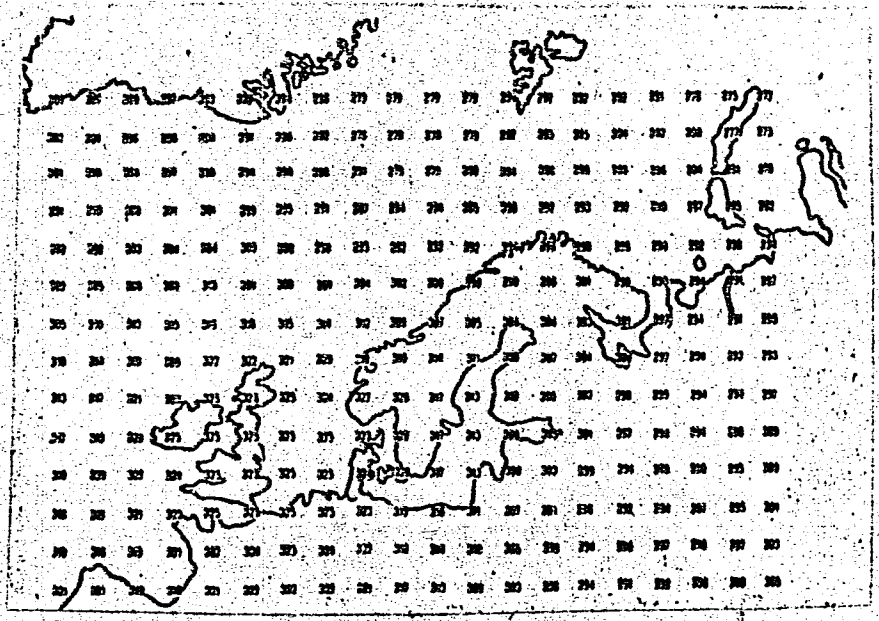
ACCESSION NR: AT4046486

Fig. 2.

ENCLOSURE: 03



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ACCESSION NR: AT4046486

ENCLOSURE: 04

Continuation of Fig. 2.

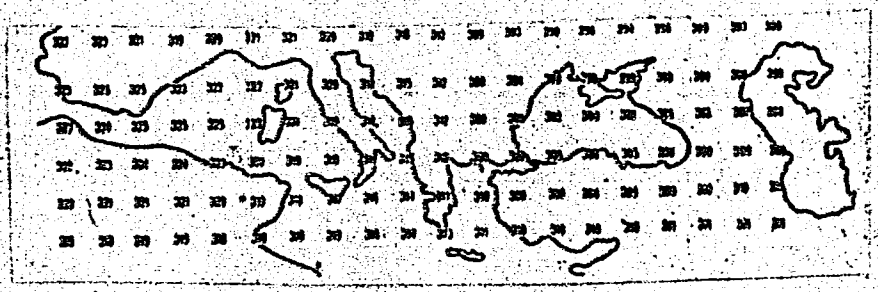

Fig. 2. Values of heights of absolute pressure pattern for 700-mb surface for 0600 hours on 7 September 1953, plotted at intersections of a regular grid.

Card 6/6

BORISENKOV, Ye.P.

Principal possibilities of the physicostatistical methods for forecasting. Trudy AANII 255:231-237 '63. (MIRA 17:6)

BORISENKOV, Ye.P.; DORONIN, Yu.P.; KONDRAT'YEV, K.Ya.

Structural characteristics of the radiation field of the earth as a planet. Kosm. issl. 1 no.1:113-125 Jl-Ag '63. (MIRA 17:4)

BORISENKOV, Ye.P.; DORONIN, Yu.P.

Use of artificial earth satellites for studying the polar regions. Probl. Arkt. i Antarkt. no.17:5-13 '64.
(MIRA 18:4)

L 23842-65 EWT(1)/FCC GW
ACCESSION NR: AT4048803 S/3116/63/255/000/0231/0237

AUTHOR: Borisenkov, Ye. P.

TITLE: Theoretical possibilities of physicostatistical forecasting methods

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Trudy*, v. 255, 1963. Sbornik statey po voprosam dolgosrochny*kh prognozov pogody* dlya Arktiki (Collection of articles on the problems of long-range weather forecasting for the Arctic), 231-237

TOPIC TAGS: weather forecasting, long-range weather forecasting, atmospheric pressure

ABSTRACT: At present there are three methods of weather forecasting, the most widely used of which is the synoptic method. Recently there has been a marked development of hydrodynamic and statistical forecasting methods. In this paper, on the basis of the example of precomputation of the pressure field at sea level, the author attempts to investigate the theoretical possibilities of physicostatistical precomputation methods. The principles expounded in this paper are also correct for evaluating the possibilities of precomputation of other meteorological fields. The author begins with an evaluation of the prognostic possibilities of the above-mentioned methods on the basis of the published

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literature in this field. It is noted that at present the minimum error in determining the surface pressure field arises when synoptic methods are used; statistical methods are in second place and hydrodynamic methods are third. However, statistical methods have been found particularly effective in long-range forecasting. The author discusses the development of physicostatistical methods, which are based on the theory of random processes. Any linear forecasting in time or space is based on the multiple regression equation

$$x_1 = a_{12}x_2 + a_{13}x_3 + \ldots a_{1n}x_n, \quad (1)$$

where x_1 is the predicted value; $x_2 \ldots x_n$ are factors (predictors) determining the value x_1; x is deviation from the norm; and a_{1j} are regression coefficients. The author then cites a system of normal equations for finding the coefficients a_{1j}. An expression is cited for determining the mean square error in forecasting. The statistical effectiveness of forecasting on the basis of formula (1) can be evaluated using formulas cited in the article. The author also evaluates the possibilities of physicostatistical methods for improving the accuracy of forecasting. A specific one-day forecast is discussed briefly. It is shown that an increase in the number of predictors does not lead to the appreciable improvement in

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ACCESSION NR: AT4048803

the accuracy of forecasting. Similar evaluations of two- and three-day forecasts are given. A single-level model was used in forecasting; this model is recommended as an approach to improved statistical forecasting. It is also recommended that specific prognostic models for small and large regions be developed for computations on electronic computers. Orig. art. has: 15 formulas, 1 figure and 3 tables.

ASSOCIATION: Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut, Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 013 OTHER: 002

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L 29538-65 EWT(1)/EWG(v)/FCC/EWA(b) Pe-5/Pi-4/Pc-4/Pq-4/Pt-10/Pae-2/Peb GW

ACCESSION NR: AT5005816 S/3116/64/271/000/0005/0018

AUTHOR: Borisenkov, Ye. P.; Osipov, B. A.

TITLE: Evaluation of the seasonal characteristics of the upper atmosphere energy balance in the Northern Hemisphere

SOURCE: Leningrad. Arkticheskiy i Antarkticheskiy nauchno-issledovatel'skiy institut. Trudy, v. 271, 1964. Chislennyye metody issledovaniya gidrometeorologicheskikh usloviy v Arktike s ispol'zovaniyem elektronnykh tsifrovykh vychislitel'nykh mashin; sbornik statey (Numerical methods of investigating hydrometeorological conditions in the Arctic using electronic digital computers; collection of articles), no. 1, 5-18

TOPIC TAGS: upper atmosphere, atmospheric kinetic energy, upper atmosphere energy balance, radiation balance, upper atmosphere dynamics, radiation absorption

ABSTRACT: Research has been carried out to determine the relationships between the seasonal variations in the radiational balance and in the dynamic characteristics of the upper atmosphere. A series of meteorological factors were considered along eight parallels at 10-degree intervals between 10 and 80° N for summer and winter: monochromatic radiation transfer, total radiation intensity in a half-sphere within

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ACCESSION NR: AT5005816

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a given range of frequencies, longwave radiation in 2-km layers (11, 13, 15 ... 79 km), vapor tension at different latitudes and seasons, the downward transmission of longwave radiation, pressure and density within specific layers, the filtration function of ozone and carbon dioxide, shortwave radiation absorption by ozone in the 2000—3200-Å Hartley band, shortwave radiation absorption by water vapor in six regions in the Hartley band, and several upper atmosphere kinetic-energy factors. The results of these computations, made on an "Ural-2" electronic digital computer, are presented in a series of tables and graphs. The data are analyzed, discussed, and compared with those obtained in earlier studies made by Ohring, Murgetroyd, Goody, and Plass. The findings obtained in the present work, which stresses the role of water vapor, ozone, and carbon dioxide in the absorption of shortwave and longwave radiation, are essentially in agreement with those of Ohring and others. Orig. art. has: 5 tables, 8 figures, and 23 formulas. [SP]

ASSOCIATION: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 012 OTHER: 006 ATD PRESS: 3197

Card 2/2

L 42060-66 EWT(1) GW

ACC NR: AT6006698 SOURCE CODE: UR/2561/65/000/020/0011/0022

27
B+1

AUTHOR: Borisenkov, Ye. P.

ORG: none

TITLE: Interaction of geophysical processes in the Northern and Southern Hemispheres in the problem of total atmospheric circulation

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Problemy Arktiki i Antarktiki. Sbornik statey, no. 20, 1965, 11-22

TOPIC TAGS: atmospheric circulation, atmospheric interaction, geophysics, kinetic energy, climatic condition

ABSTRACT: In this article the author continues to discuss the problem of the interaction of atmospheric processes in the Northern and Southern Hemispheres which he began in connection with research in the area of atmospheric energetics. Data are given on the reserves of kinetic energy of the mean zonal flow in the atmosphere of the Northern and Southern Hemispheres during various seasons. It follows from the data that during the winter in the Northern Hemisphere the reserves of kinetic energy of the mean flow in both hemispheres are approximately the same. During the summer in the Northern Hemisphere there is a maximal

UDC: 551.513(211.1)(211.2)

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contrast between the total reserves of kinetic energy of the zonal flow in the atmosphere of the hemispheres. It is also found that the recurrence of meridional forms of circulation in the Northern Hemisphere has a well pronounced maximum in May as could be expected if it is taken into account that during late fall in the Northern Hemisphere atmospheric processes are more intense than during the winter, and for the Southern Hemisphere April-May should be the period of greatest intensity. This pattern is not explained, but it is pointed out that it is of considerable practical importance since disruption of a zonal circulation and an explanation of the causes leading to this is the central problem of the hydrodynamic theory of total atmospheric circulation and the associated problem of long-range weather forecasting. As regards the coincidence of the periods of the maximum (minimum) velocity of rotation of the earth with the periods of the maximum (minimum) intensity of zonal circulation, there are no grounds to assume that atmospheric circulation directly determines the seasonal variation of the angular velocity of rotation of the earth. Citing the theorem of the conservation of the absolute angular momentum of the earth-atmosphere system, the author concludes that with an increase of the moment of momentum of the atmosphere the moment of momentum of the earth's mantle should decrease and vice versa (i.e., the minimum angular velocity of rotation of the earth should correspond to periods of the maximum zonal velocity in the earth's atmosphere; the maximum should correspond to periods of the minimum zonal velocity in the atmosphere). However, the data given indicate the opposite is true. Thus, the author concludes that the disturbances of zonality in the atmosphere of the Northern and Southern Hemispheres are

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ACC NR: AT6006698

mutually related and are ultimately caused by dissimilar condition of heat gain in both hemispheres. At the same time the author disputes the point of view according to which seasonal changes of the overall circulation of the atmosphere determine the seasonal changes of the angular velocity of rotation of the earth. The causes generating seasonal changes of the angular velocity of the rotation of the earth, their mutual dependence and interrelationship with the overall circulation of the atmosphere require a further careful investigation not only by astronomers but also by geophysicists and meteorologists. Orig. art. has: 2 tables, 5 figures, and 11 formulas.

SUB CODE: 04,08/ SUBM DATE: 15Dec64/ ORIG REF: 016/ OTH REF: 001

Card 3/3 hs

ACC NR: AT6036185 SOURCE CODE: UR/3116/66/277/000/0063/0067

AUTHOR: Borisenkov, Ye. P. (Candidate of physico-mathematical sciences) Mednikova, E. S.

ORG: none

TITLE: The problem of the automatic decoding of synoptic reports using a computer

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Trudy, v. 277, 1966. Chislennyye metody issledovaniya gidrometeorologicheskikh usloviy v Arktike s ispol'zovaniyem elektronnykh tsifrovykh vychislitel'nykh mashin (Numerical methods of studying hydrometeorological conditions in the Arctic with the use of electronic digital computers), 63-67

TOPIC TAGS: computer, computer program, computer application, meteorology, synoptic meteorology, Arctic climate, computer coding / Ural 2 computer

ABSTRACT: Some of the results are presented of projects undertaken at the Arctic and Antarctic Scientific-Research Institute involving the automatic decoding of incoming synoptic reports for the Northern Hemisphere. The decoding program (see Fig. 1) discussed takes into account specific and frequently encountered deviations from accepted standards

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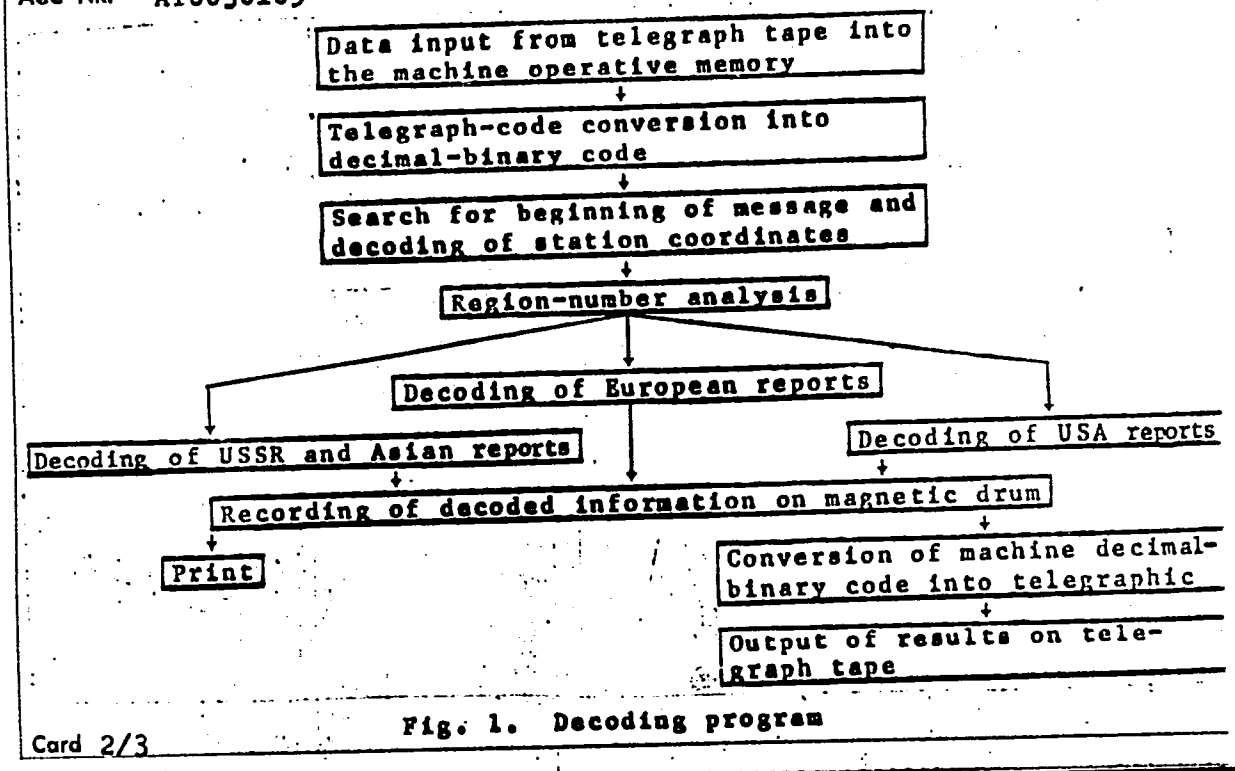

Fig. 1. Decoding program

ACC NR: AT6036185

in coding and compiling weather reports. Data from 1900 land-based and 500 shipboard weather stations were used for a synoptic analysis. It was learned that the data relating to about 900 of the land-based stations were only duplicate data, attributable to reception through several communications channels; this indicates poor data-transmission organization and excessive loading of the channels. Great difficulty was encountered in locating the beginning of a message. Procedures for finding the beginning of a message are outlined and problems involved in the control of individual meteorological elements are discussed. The information processing rate for 100 messages is roughly as follows: input, decoding, control, and recording on the magnetic drum takes 10 min; output of the decoded and cleared information on telegraph tape takes 5 min. Using a Ural-2 computer, a weather report can be decoded and cleared in 1.5 to 2 hr. The authors conclude that the algorithm reviewed in the article can be used as a component in the process of decoding incoming weather information. Orig. art. has: 5 formulas and 1 figure. [WN04] [LB]

SUB CODE: 04, 09/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 3/3

MALYGIN, V.I., nauchnyy sotrudnik; BORISENKOVA, A.N., nauchnyy sotrudnik; ZHURNAKOVA, M.A., doktor veterin. nauk; BOLOTNIKOV, I.A.

Infection of cattle with the tuberculosis agent of human type. Veterinariia 41 no.4:37-39 Ap '64. (MIRA 17:8)

1. Leningradskiy nauchno-issledovatel'skiy veterinarnyy institut (for Malygin, Borisenkova, Zhurnakova). 2. Veterinarnyy vrach sovkhoza "Vernyy put'" (for Bolotnikov).

ZHURNAKOVA, M.A., doktor veterin. nauk; MALYGIN, V.I., nauchnyy sotrudnik; BORISENKOVA, A.N., nauchnyy sotrudnik; BOLOTNIKOV, I.A.

Paraallergic reaction to tuberculin by cattle affected with fowl-type microbacteria. Veterinariia 41 no.3:23-25 Mr '64. (MIRA 18:1)

1. Leningradskiy nauchno-issledovatel'skiy veterinarnyy institut (for Zhurnakova, Malygin, Borisenkova). 2. Glavnyy veterinarnyy vrach Sovkhoza "Vernyy put'", Leningradskaya ob. (fc. Bolotnikov).

BORISENKOV, Ye., kand. fiz.-matem. nauk, dotsent

Some problems in automating the collection and processing of information by the use of electronic computers. Mor. flot 25 no.7:16-18 Jl '65.
(MIRA 18:7)

1. Rukovoditel' vychislitel'noy laboratorii Arkticheskogo i Antarkticheskogo nauchno-issledovatel'skogo instituta.

ZHURNAKOVA, M.A., doktor veterin.nauk; MALYGIN, V.I., nauchnyy sotrudnik; BORISENKOVA, A.N., nauchnyy sotrudnik; SHORSHNEV, V.I., aspirant; SYUMKINA, G.V.

Allergy in hens without tuberculosis lesions. Veterinariia 41 no.3:38-40 Mr '65. (MIRA 18:4)

1. Leningradskiy nauchno-issledovatel'skiy veterinarnyy institut (for Zhurnakova, Malygin, Borisenkova, Shorshnev). 2. Glavnyy veterinarnyy vrach sovkhoza "Pudost'", Gatchinskoye proizvodstvennoye upravleniye, Leningradskaya oblast' (for Syumkina).

(2)

Toxicity of production dust from manganese alloys. R. V. Borisenkova (1st Moscow Med. Inst.). *Gigiena i Sanit.* 1954, No. 1, 21–6.—Tests with rats showed definitely that dusts contg. Mn (ferromanganese or silicomanganese) show toxic effects on the animal organism. The dust of ferromanganese is the more toxic of the two. The results are based on prolonged expts. in which the animals were exposed to the fine dusts for 16–17 weeks. The effects are shown in alteration of motor chronaxy in the hind limbs.

G. M. Kosolapoff

BORISENKOVA, R.V.

Experimental study of the action of ferrosilicon dust on the organism. R. V. Borisenkova. (1st Moscow Med. Inst.). *Gigiena i Sanit.* 1954, No. 5, 23–6.—In industrial use of ferrosilicon there is produced a considerable amt. of aerosol with particle sizes smaller than μ. Intratracheal introduction of this dust leads to a stable chronic process in which the alveolar interstitial material is thickened with deformation of vessels and bronchial passages. Dust of Fe oxide produces only a mild thickening of alveolar membranes. Thus the ferrosilicon dust has pathogenic properties.

G. M. Kosolapoff

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BORISENKOVA, R.V.

Investigations of the comparative toxicity of manganese compounds and of alloys containing manganese. Farm. i toks. 17 no.4:54-58 Jl-Ag '54. (MLRA 7:10)

1. Kafedra gigiyeny truda (zav. prof. Z.I.Izrael'son) I Moskovskogo ordena Lenina meditsinskogo instituta.
(MANGANESE, toxicity,
cpds. & alloys containing manganese)

CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Application--Safety and Sanitation

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8729

Author : Arkhangelskaya, L. N., Borisenkova, R. V.

Inst : Not given

Title : Study of Hygienic Evaluation of Industrial Dust of Alloy Metals

Orig Pub: Zh. gigieny, epidemiol., mikrobiol. i immunol., 1957, 1, No 4, 381-387

Abstract: It was established that 7 to 16 weeks after a four-month long inhalation priming of white rats (45 animals) by ferromanganese (I) dust (Mn content 74.9 percent) and silicomanganese (II) Mn

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CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Application--Safety and Sanitation H-6

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8729

content 72.3 percent, Si 15 percent), at a dust concentration of 0.07 to 0.15 mg per liter, a change in motor chromaxia appeared in the animals. Upon histological examination, a swelling of ganglion cells was found in the brain, a lysis of tigroid masses, vacuolization, edema, and cell pycnosis; dystrophic changes in the cortex; chronic interstitial infiltrating process in liver and kidneys. All the manifestations are stronger by action of I than by action of II (there is an opposite effect in the lungs). It is considered that Mn alloys retain their specific toxic effect (somewhat modified). In a chronic intratracheal introduction of ferrosilicate dust (III) (up to

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CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Application--Safety and Sanitation H-6

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8729

75 percent Si) and silumin (IV) (12 percent Si) into 130 rats for four and six months (in 0.5 a physiological saline in doses of 5.0, 15.0, 40.0 mg) an interstitial infiltration process in the lungs and ganglion fibrosis were found. It is considered that fibrous changes from III and IV dust are caused by the carrier metal (Al or Fe) and the role of Si is insignificant. Bibliography 16 references. --T. Brzhevskaya

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ARCHANGELSKAJA, L.N.; BORISENKOWA, R.V.

Hygienic evaluation of industrial dust from alloys. J. Hyg. Epidem., Praha 1 no.4:440-450 1957.

1. Lehrstuhl fur Arbeitshygiene des I Moskauer Instituts J. M. Setschenows, Moskau.

(DUST,
from alloys, hyg. evaluation (Ger))

BORISENKOVA, R.V. ...Public Health,etc. Mar58

854. PROPHYLACTIC EFFECT OF EXAMINATION OF THE UPPER RESPIRATORY TRACT OF LABOURERS OF A CHEMICAL PLANT (Russian text) - Borisenkova R.V., Ioffe R.M., Kaplun Z.S. and Mogilevskaya O.Ya. - GIGIENA 1957, 6 (41-46) Graphs 1 Tables 2

Pre-employment examination of the upper respiratory tract of labourers of a chemical plant showed that a considerable percentage of workmen had pathological changes of the upper respiratory tract. These affections did not keep them from working (rhinitis, pharyngitis, tracheitis) in the beginning but later became the cause of a considerable loss of health. Sanitary inspection of the workshops has shown that periodically, during short intervals, increased concentrations of toxic substances and dust have been noted, which could have caused the above-mentioned pathological conditions. Therefore, a sanitary assessment of the working conditions should not be based on average concentration of toxic substances in the air. A careful study of the possible causes of these short periods of increased concentration of gases and dust in the air should be carried out with subsequent elimination of the above-mentioned factors.

(XVII, 15*)

BEREZOVA, M.K., [deceased]; BORISENKOVA, R.V.; IZRAEL'SON, Z.I., prof.; KAPLUN, Z. S.; KLENOVA, Ye.V.; MOGILEVSKAYA, O.Ya.; TRAKHTMAN, N.N., red.; BEL'CHIKOVA, Yu.S., tekhn. red.

[Manual of practical exercises in industrial hygiene] Rukovodstvo k prakticheskim zaniatiiam po gigiene truda. Izd. 2., perer. i dop. Moskva, Gos. izd-vo med. lit-ry, 1958. 441 p. (MIRA 11:11)

1. Zav. kafedroy gigiyeny truda I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova (for Izrael'son).
(INDUSTRIAL HYGIENE)

BORISENKOVA, R. V., VOROB'YEVA, R. S., [illegible], YE. A., [illegible]

"The experience of study of the effect of aerosols of metals on the functional state of the central nervous system under industrial conditions and experimentation."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, ,1959..

BORISENKOVA, R.V.

Materials on the toxicology of naphtalene. Trudy 1-go MMI 5:56-63 '59. (MIRA 13:8)

1. Iz kafedry gigiyeny truda (zav. - prof. Z.I. Izrael'son) 1-go Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova.
(NAPHTHALENE--TOXICOLOGY)

BORISENKOVA, R.V.; TIMOKHIN, D.I.

Hygienic characteristics of noise and vibrations of mechanisms used in open-pit mining. Uch. zap. Mosk.nauch.-issl.inst. san. i gig. no.7:74-81 '60. (MIRA 15:2)
(NOISE) (MINING MACHINERY--VIBRATION)

BORISENKOVA, R.V.; TIMOKHIN, D.I.

Dustiness of the air in the mines of the Moscow Basin and the Eastern Donets Basin. Uch.zap.Mosk.nauch.-issl.inst.san.i gig. no.8:11-15'61. (MIRA 16:7)
(MOSCOW BASIN--MINE DUSTS).
(DONETS BASIN--MINE DUSTS)

BORISENKOVA, R.V., kand.med.nauk; ROSHCHIN, I.V., dotsent.; TIMOKHIN, D.I., kand.med.nauk

Some problems in industrial hygiene related to the mechanization of operations in the coal industry. Gig. i san. 26 no.11:24-29 N '61. (MIRA 14:11)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.
(COAL MINES AND MINING—HYGIENIC ASPECTS)

BORISENKOVA, R. V.; TIMOKHIN, D. I. (Moskva)

Problems in industrial hygiene in the open pit mining of iron ore and nonferrous ores. Gig. truda i prof. zab. no.3:3-8 '62. (MIRA 15:4)

1. Moskovskiy nauchno-issledovatel'skiy institut gigiyeny imeni F. F. Erismana.

(MINING ENGINEERING--HYGIENIC ASPECTS)

BEREZOVA, Mariya Konstantinovna [deceased]; BORISENKOVA, Raisa Vasil'yevna; IZRAEL'SON, Zigfrid Isidorovich, prof.; KAPLUN, Zirtruda Sergeyevna [deceased]; KASPAROV, Ashot Armenakovich; KLENOVA, Yelena Vasil'yevna [deceased]; MOGILEVSKAYA, Ol'ga Yakovlevna; ARKHANGEL'SKAYA, L.N., red.; BASHMAKOV, G.M., tekhn. red.

[Handbook of practical exercises in the hygiene of work] Rukovodstvo k prakticheskim zaniatiam po gigiene truda. Izd.3., perer. i dop. Pod red. Z.I.Izrael'sona. Moskva, Medgiz, 471 p. (MIRA 16:7)

1. Zaveduyushchiy kafedroy gigiyeny truda Pervogo Moskovskogo meditsinskogo instituta im. I.M.Sechenova (for Izrael'son).
(INDUSTRIAL HYGIENE--HANDBOOKS, MANUALS, ETC.)

PHASE I BOOK EXPLOITATION SOV/6515

Izrael'son, Z. I., Ed., Professor

Toksikologiya redkikh metallov (Toxicology of Rare Metals) Moscow, Medgiz, 1963. 335 p. 1500 copies printed.

Ed.: R. S. Khamidullin; Tech. Ed.: Yu. S. Bel'chikova.

PURPOSE: To provide information on the toxic effects of rare metals.

COVERAGE: The chemistry and industrial applications of rare metals and their aerosols are discussed. The clinical picture and pathology of rare-metal poisonings is also given. There are 307 references.

Ch. IV. Experimental Studies of the Effect on an Organism of Industrial Dust from Metal Alloys 289

1. Industrial dust of certain alloys containing manganese. R. V. Borisenkova 289
2. Industrial dust of ferrosilicon. L. N. Arkhangel'skaya 301
3. Dust of metal alloys containing molybdenum and nickel. O. Ya. Mogilevskaya 314
4. Industrial dust of silicon-aluminum alloys. L. N. Arkhangel'skaya 321
5. Dust of alloys containing beryllium. O. Ya. Mogilevskaya 331

BORISENKOVA, V. V.

BORISENKOVA, V. V. - "Experimental Research on the Hygienic Characteristics of Industrial Dust From Ferroalloys." Sub 28 Aug 52, First Moscow Order of Lenin Medical Inst. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

AGRANAT, P.A.; BORISENOK, D.B.

Over-all mechanization of loading and unloading operations at the Kiev junction. Zhel.dor.transp. 41 no.11:64-68 N '59. (MIRA 13:2)

1. Zamestitel' nachal'nika gruzovoy sluzhby Yugo-Zapadnoy dorogi, Kiyev (for Agranat). 2. Glavnyy inzhener gruzovoy sluzhby Yugo-Zapadnoy dorogi, Kiyev (for Borisenok)
(Kiev--Railroads--Freight)

AUTHOR: Borisenok, I. T. (Moscow) SOV/24-58-5-4/31

TITLE: Improving the Dynamic Response of a Gyro-Stabilizer with Correcting Circuits (Uluchsheniye dinamicheskikh kharakteristik girostabilizatora pri pomoshchi korrektiruyushchikh konturov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 5, pp 21-28 (USSR)

ABSTRACT: The single-axis stabilizer of Fig.1 is considered; Eqs.(1.1) are the equations of motion. Correcting circuits with the transfer functions of Eqs.(1.2) are considered. The gyro has the constants of Eqs.(1.4). The roots of (1.3) are then given. The transfer function of the open-loop system is dealt with in section 2; the appropriate amplitude and phase curves are given. Section 3 deals with the transient responses; again, the curves are given. Section 4 deals with forced oscillations. Section 5 deals with real circuits for the purpose, such as are shown in Figs. 12-15. It is stated that the author has found that second-order correcting circuits give much briefer transients than do

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Improving the Dynamic Response of a Gyro Stabilizer with Correcting Circuits

zero or first-order ones.
There are 15 figures and 3 references, 1 of which is Soviet, 2 English.

SUBMITTED: June 11, 1957

S/055/60/000/01/08/009

AUTHOR: Borisenok, I.T.

TITLE: Improving of Transient Processes of Gyrostabilizer by Using the Corrective Networks

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I, matematika, mekhanika, 1960, No.1, pp. 66-68

TEXT: Corrective networks with the transfer functions

$$(2)\quad X^{(1)}(D) = \frac{T_2}{T_1}\,\frac{T_1 D+1}{T_2 D+1}, \qquad X^{(2)}(D) = \frac{T_2^2}{T_1^2}\cdot\frac{T_1^2 D^2 + {}_1 D+1}{T_1^2 D^2 + {}_2 D+1}$$

were attached to a uniaxial gyrostabilizer which was simulated by an electronic device, and the transition process was obtained experimentally. It was stated that by a use of the corrective networks (especially of that with $X^{(2)}(D)$) the transition process is improved essentially (less vibratory decay).

The author thanks the students N.M.Fraynd and V.A.Parashkov and the coworker B.M.Balakin for the participation in the experiment.

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Improving of Transient Processes of Gyrostabilizer by Using the Corrective Networks S/055/60/000/01/08/009

There are 5 figures and 7 references: 5 Soviet and 2 American.

ASSOCIATION: Kafedra prikladnoy mekhaniki (Department of Applied Mechanics)

SUBMITTED: May 6, 1959

Card 2/2

BORISENOK, I.T. (Moskva)

Regulating the state of a system without a natural guiding force in the presence of dry friction. Izv.AN SSSR.Otd.tekh.nauk.Mekh. i mashinostr. no.2:119-124 Mr-Ap '62. (MIRA 15:5)
(Vibration)

BORISENOK, I.T.; GENEROZOV, M.N.; YEREMEYEV, N.V.; KARAMYSHKIN, V.V.; KUZOVKOV, N.T.; BORISENOK, I.T.; KULIKOVSKAYA, N.V.; SAVINOV, G.I., kand.fiz.-mat. nauk, dots. [deceased]; PIROGOV, I.Z.; Prinimali uchastiye: BALAYEVA, I.A.; BALAKIN, B.M.; BELYAYEVA, G.M.; BELYAKOV, V.I.; VELERSHTEYN, R.A.; ZHARKOV, G.M.; KOROLEVA, V.Ye.; LITVIN-SEDOY, M.Z.; POPOV, A.I.; PRIVALOV, V.A.; STUKALOVA, L.M.; CHISTYAKOV, A.I.; SAVVIN, A.B., red.; CHISTYAKOVA, K.S., tekhn. red.

[Laboratory work in theoretical and applied mechanics] Laboratornyi praktikum po obshchei i prikladnoi mekhanike. Moskva, Izd-vo mosk. univ. 1963. 233 p. (MIRA 16:12)

1. Kafedra prikladnoy mekhaniki Moskovskogo gosudarstvennogo universiteta (for Balayeva, Balakin, Belyayeva, Belyakov, Velershteyn, Zharkov, Koroleva, Litvin-Sedoy, Popov, Privalov, Stukalova, Chistyakov).
(Mechanics--Laboratory manuals)

BORISENOK, I.T.; GENEROZOV, M.N.; YEREMEYEV, N.V.; KARAMYSHKIN, V.V.; KUZOVKOV, N.T.; BORISENOK, I.T.; KULIKOVSKAYA, N.V.; SAVINOV, G.I., kand.fiz.-mat. nauk, dots. [deceased]; PIROGOV, I.Z.; Prinimali uchastiye: BALAYEVA, I.A.; BALAKIN, B.M.; BELYAYEVA, G.M.; BELYAKOV, V.I.; VELERSHTEYN, R.A.; ZHARKOV, G.M.; KOROLEVA, V.Ye.; LITVIN-SEDOY, M.Z.; POPOV, A.I.; PRIVALOV, V.A.; STUKALOVA, L.M.; CHISTYAKOV, A.I.; SAVVIN, A.B., red.; CHISTYAKOVA, K.S., tekhn. red.

[Laboratory work in theoretical and applied mechanics] Laboratornyi praktikum po obshchei i prikladnoi mekhanike. Moskva, Izd-vo mosk. univ. 1963. 233 p. (MIRA 16:12)

1. Kafedra prikladnoy mekhaniki Moskovskogo gosudarstvennogo universiteta (for Balayeva, Balakin, Belyayeva, Belyakov, Velershteyn, Zharkov, Koroleva, Litvin-Sedoy, Popov, Privalov, Stukalova, Chistyakov).

(Mechanics--Laboratory manuals)

ACCESSION NR: AP4039016 S/0055/64/000/003/0075/0086

AUTHOR: Borisenok, I. T.

TITLE: Control system with redundancy in the presence of dry friction

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 3, 1964, 75-86

TOPIC TAGS: control system, friction, steady state oscillation, automatic control

ABSTRACT: The author studies an automatic control system with redundancy in the presence of dry friction in the redundant elements. Redundancy is used to insure high reliability of the system. The motion of such a system is described by

$$TD^2\varphi + q\rho + r\delta = \chi(t), \qquad (1)$$

$$(VD^2 + \tau D + n_1)\rho - s(\sigma D + 1)\varphi = -k\,\mathrm{sign}\,D\rho,$$

$$(VD^2 + \tau D + n_2)\delta - s(\sigma D + 1)\varphi = -k\,\mathrm{sign}\,D\delta.$$

Here φ, ρ and δ are the coordinates of the control object, and the actuating elements T and V are coefficients characterizing the inertia of the object and the actuating elements, $\chi(t)$ is the exterior perturbation, σ is the coefficient

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ACCESSION NR: AP4039016

of artificial deformation, τ is the time constant of the actuating elements, s is their effectiveness, n_1, n_2 are coefficients characterizing the inverse relation of the actuating elements, q and r characterize the number of actuating elements, and k is the coefficient of dry friction. The variables $T, V, \tau, \sigma, s, n_1, n_2, q, r, k, \chi$ are assumed positive and constant; $\varphi, \rho, \delta, s, n_1, n_2, q, r, \chi$ are dimensionless coefficients, τ, σ, k have the dimensionality of time; T and V have the dimensionality of the square of time. The author starts out with the simplest version of system (1) and progressively generalizes to the more complicated cases. He finds the effect of redundancy on the stability of the solution of (1), that is, under what circumstances periodic non-damping solutions exist. For $n = 0$ or $\sigma = 0$ the considered control system without redundancy is unstable. "In conclusion I use this opportunity to express my gratitude to V. I. Belyakov for doing part of the computations for the examples." Orig. art. has: 5 tables and 37 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet; Kafedra prikladnoy mekhaniki(Moscow State University, Department of Applied Mechanics)

SUBMITTED: 12Nov63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MA,IE NO REF SOV: 007 OTHER: 000

Card 2/2

BORISENOK, G.V., inzh.; KARASEV, N.F., inzh.; MOLIVER, P.S., inzh.; CHESNOKOV, A.S., inzh.

Rapid method of tunneling with ordinary shields. Transp. stroi. 12 no.8:22-24 Ag '62. (MIRA 15:9)
(Moscow--Subways) (Tunneling)

S/179/63/000/001/002/031
E031/E135

AUTHOR: Borisenok, I.T. (Moscow)

TITLE: Steady oscillations of a system with a natural control force and dry friction

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.1, 1963, 24-32

TEXT: Oscillations in indirect automatic control systems can be described by the equations

$$(T_\gamma D^2 + \tau_\gamma D + k_\gamma)\,\gamma + \delta = \chi$$

$$\varrho = (i_1 + i_2 D + i_3 D^2)\gamma - \frac{1}{m}\delta \qquad (D = d/dt) \qquad (1.1)$$

$$(T_\delta D^2 + \tau_\delta D) = s\Phi(\varrho) - k \operatorname{sign} D\delta$$

the first of which refers to the controlled object, the second to the comparison unit and the third to the control unit.

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Steady oscillations of a system with ... S/179/63/000/001/002/031
E031/E135

In the ideal case, when there is neither inertia nor viscous drag, $T_\delta = \tau_\delta = 0$. The equations are referred to a particular equilibrium position and then simplified. The conditions for the simplified system to be stable and for the simplified equations to have a periodic solution are determined. Several special cases of the latter are considered. The case of steady oscillations of an undamped object is discussed using normal coordinates. The conditions for stable stationary amplitudes are found.

SUBMITTED: March 6, 1962

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L 1669-66 EWT(d)/EWT(l)/EWP(v)/EWP(k)/EWP(h)/EWP(l)/EWA(h) IJP(c) BC

ACCESSION NR: AP5019916 UR/0055/65/000/004/0090/0093
62-50 : 621.3.019.35

AUTHOR: Borisenok, I. T.; Balakin, B. N.

TITLE: A mechanism for switching a system to a reserve control channel

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 4, 1965, 90-93

TOPIC TAGS: control system, control system stability, reliability engineering

ABSTRACT: A control system having two operating doubling control devices is studied. With feedback cut off in one of the controls, the system remains stable and preserves control. If feedback in the second control is cut off, the system becomes unstable and loses the control function. The switching mechanism is employed to cut in the two previously non-operating controls in order to preserve stability in case of feedback loss in both operating controls. This is accomplished through the use of a searching procedure for a system that becomes non-correcting to alloy switching to the reserve control to restore stability. Orig. art. has: 4 formulas, 7 figures.

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L 1669-66

ACCESSION NR: AP5019916

ASSOCIATION: Otdel teoreticheskoy i prikladnoy mekhaniki NII mekhaniki MGU (Department of theoretical and applied mechanics, NII of Mechanics, MGU)

SUBMITTED: 10Sep64 ENCL: 00 SUB CODE: MA, DP

NO REF SOV: 002 OTHER: 000

Card 2/2 DP